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Instrument to the transkutanen and subcutaneous heating and Iontophorese and method to its application
By means of Massage or Akupunktur of certain Hautstellen on organs of the humans or vertebrate standing with them in connection applied effect substantial increased or light in the desired sense passed can become, if the certain Hantstellen becomes trans or subcutaneous heated or by means of thermal or electrical Iontophorese traces of certain metals or medicaments supplied obtained. When particularly wirltungsvoll has it proven, if the certain Hautstellen simultaneous becomes trans and subcutaneous affected, as the transkutane heating or Iontophorese becomes by a subcutaneous assisted, or reverse.

With the invention an instrument provided is, the simultaneous at the certain Hautstellen trans and subcutaneous warming up and/or.

Iontophorese possible. It is in the drawing Fig. I to 7 in various embodiments schematic and exemplified. It shows
Fig. I the instrument after the invention composite in side view,
Fig. 2 the bottom of the staff in the section,
Fig. 3 a thermal needle in the section,
Fig. 4 a thermal needle to Iontophorese of medicaments,
Fig. 5 electron aristocracy in the section,
Fig. 6 electron aristocracy to the Iontophorese of medicaments,
Fig. 7 a schematic diagram.

The instrument after the invention (Fig. I) consists of two parts, which staff I and the needle 2, which are by an opening 2I in the staff passed. The staff carries the cone 3 at its bottom end. The upper part serves 4 as handgrip, from whose upper end a two-vein cable leads 5 out, which is 6 connected with the two poles of an electrical power source.

At the staff a clamping device 7, it the possible is to connect the needle in each desired position with the staff fixed.

The upper end of the needle 2, those in Fig. I as electron aristocracy shown is, is 6 connected by a single-wire cable 8 with the positive pole of the power source, while the other pole is alternatively 10 connected to a Kontaktplatteg or to a contact needle.

In Fig. 2 is the bottom end of the staff I for example in an embodiment shown.

The cone 3 is so connected with the staff I, z. B. by means of screw connection, bayonet fixing and. that it is more replaceable. Both an inertial common bore 21 to the receptacle of the needle 2.

To the heating of the cone 3 cores are 22 provided, in an annular and above and lateral with thermal insulation means 23 lined, EN groove of the staff so stored are that only to the cone 3 is passed from the power source 6 the heat generated.

The staff I becomes appropriately from a poor heat conductor, z. B. Synthetic resin, manufactured, against it the cone 3 atis good heat conducting metal, z. B. Gold, silver, copper, iron (Fe) and. A., which at the same time is in the layer to deliver the desired trace elements due to the schwarten radiation with the heating.

Instead of using solid cones from the too emanierenden metal, it is provided, the cone 3 from a particularly good heat conducting material, z. B. Copper to set EN, and only the surface with the too emanierenden metal, z, coming with the skin into contact. B. Gold, silver, iron and. A. to plate or cover on other manner.

The Hautberührungsfiächen of the cone 3 is provided with recesses 26 to the receptacle of Medilkamenten.

In order to be able to use the cone 3 also for the electrical Iontophorese, is provided that he with in - the staff embedded a contact piece 24, in. - the drawing for example as screwed lamp-socket for the cone shown, connected is, which is connectable alternatively to the positive or negative pole of the power source 6.

The supply of the electric current to the Heizspirale-22 and the cone 3 made over in the handgrip of 4 stored switches II and the contactor the I2. The switch possible in known manner, the electric current alternatively the cone 3 to supply the cone and the HeiizspiraLe 22 or the core alone. The corresponding positions of the switch are in the drawing (Fig. I) with E = electrical Iontophoirese, ET = electrical and thermal Iontophorese and T = Th'ermo Iontophorese referred. The schematic diagram Fig. shows 7 the closer details, whereby 70 a Kontaktieder drawn in the three switching positions is.

To the regulation of the temperature of the cone 3 is provided, either with known apparatuses (mercury, resistance, thermocouple thermometers and. to measure A.) the temperature of the cone current and the desired temperature by switching the filament current on and off by operation of the pressure switch 12 or by means of known temperature controllers, z. B. Bimetal switch to let regulate on a set temperature.

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In order to cause a subcutaneous heating, is in Fig. 3 represented thermal needle vorgeueben. The actual needle 30 has the conventional form of an injection hollow needle. By its inner one an electrical lead wire is 31 passed, which is 32 so surrounded of an insulating material that an immediate current crossing from the lead wire is not possible to the needle.

To the bottom end of the lead wire an heating wire is 33 connected, whose stands other end with the point 34 with the needle tip in conductive connection. In order to prevent home a stinging into the skin that skin parts or body fluid penetrate into the front part of the needle, the heating wire 33 is in warm and f'euchtigkei tsbeständige mass 35, z. B. Refractory clay or tone, embedded.

The supply of the filament current made, as in Fig. 7 with the thermal needle A shown, as the needle 30 and the lead wire 31 become to the two poles of the power source connected.

If the black radiation arising with the subcutaneous heating is to become the thermal ion ton phorese utilized, then provided is to make the needle 30 of the too emanierenden metal or to überzichen its tip thereby.

To the subcutaneous thermal Iontophorese from medicaments provided is, as in Fig. 4 shown to attach at the tip a cavity 40 to the receptacle of the too emanierenden medicament.

In order to increase the effect of the subcutaneous thermal ion ton phorese by a simultaneous Etektro Iontophorese outgoing from the same thermal needle, only according to invention the lead wire 31 with the positive pole of the power source connected (Fig becomes. 7, - thermal needle b). The current flows then by the lead wire 3I, brings the heating wire 33 to the heating, decreases/goes back over the needle tip into the body of the patient and over the Kontaktplatteg or the Kontaktuadel 10 or alternatively over the cone 3 to the power source.

For the subcutaneous electrical Iontophorese are electron ennoble as in Fig. 5 exemplarily indicated provided. An electrical lead wire 50, which is of a jacket 51 from insulating material surrounded, carries a connected tip 52 from the too emanierenden metal, fixed with it, in its bottom end. It is sufficient however, if the tip only with the respective metal over zones is.

In order to be able to make a subcutaneous Elelçtro Iontophorese of medicaments, is in Fig. 6 exemplarily represented electron aristocracy at their tip with recesses 6I, z. B. Annular grooves or bores, to the receptacle of the too emanierenden medicaments provided.

With the instrument a pure lakale Iontophorese between cones and a Elektrooder thermal needle or reverse can be accomplished.

For this the electrical or thermal needle (Fig becomes. 7, b or C) only with the lead wire 31 or 50 in the positive or negative pole of the power source connected and the cone 3 with the opposite pole connected. In order to prevent a direct current crossing of the thermal needle 30 on it the ambient cone 3, is either the thermal needle up to the free tip with an insulation layer coated or the bore of the cone with a Niantel 25 from insulating material lined, which can be left.

The application of the instrument happens as follows: The needle 2 (thermal or electron aristocracy) becomes so far 1 introduced into the staff that their tip of the desired parting-deep corresponding protrudes from this, and in this position by means of the clamping device 7 set. At an appropriate point the striking surface is stung the contact plate 9 in known manner conductive applied or the contact needle IO into the skin. With immediate Iontophorese between cones and needle pointed is not the application of the contact means g and IO required. Then into the Hautstelle which can be affected the needle 2 so deep into the skin one stings, until the cone 3 at the skin comes to the plant.

By corresponding switching on of the power source on 6 trans or subcutaneous heating or Iontophorese initiated becomes.

The instrument after the invention possible between transkutaner and subcutaneous heating, thermal and electrical Iontophorese about fütnfund twenty various combinations, which are sufficient for all occurring requirements of the practice.

PATEXTANSPRÜCHE

I. Instrument to the transkutanen and sub cutaneous heating and Iontophorese, characterised in that it from a cone (3) for the transkutane heating, thermal and electrical Iontophorese and a needle (2) for the subcutaneous heating, thermal and Electrical Iontophorese exists.